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ABSTRACT

An English-for-Special-Purposes (ESP) text embodies structure and conventionalized features that play important roles in conveying its message to members of the specific discourse community. This means that such a text should not be simplified or otherwise subjected to loss of its generic integrity, yet these texts are often difficult for undergraduate English-as-a-Second-Language (ESL) students who need to be introduced to them in what is likely to be one of their last formal English language courses before entering the discourse community. To deal with this dilemma, one educator has suggested "easification" of ESP texts. Here this idea is extended to texts for students majoring in pharmaceutical science. Students are taught to analyze the text for four elements: purpose; audience; information; and language features. This exercise makes students more aware of differences in the physical format and features of different texts. Then, using reference materials, students learn to identify sections to examine for greater clarification. Important terminology is also highlighted, then learned in class exercises using contextual clues. The objective is not to change the text but to make its contents more accessible through analysis. Contains 14 references. (MSE)

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"Easifying" ESP Texts for EFL Science Majors

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Abstract

An ESP text embodies structure and conventionalized features which play important roles in its message to members of the discourse community. This means that such a text should not be simplified or otherwise subjected to loss of its generic integrity. And yet these texts are often very difficult for undergraduate university students in an EFL situation who need to be introduced to such texts in what will very likely be one of their last formal English-language courses before they enter their chosen discourse community. To deal with this dilemma, Bhatia suggests the "easification" of ESP texts [Bhatia, V. K. (1993). *Analysing genre: Language use in professional settings.* London and New York: Longman]. Here this idea is extended to texts for students majoring in pharmaceutical sciences.

Introduction

"Language varies as its function varies; it differs in different situations" stated Halliday, McIntosh and Strevens as long ago as 1964, and this concept is useful for studying the language of science and technology. More than thirty years later, Bex (1996) continuing in the same tradition, discusses textual variety in a range of texts from a British Railways sign in train toilets (p. 69) to advertisements and literature.

In early work on the discourse of science, Selinker, Lackstrom and Trimble (1973) investigated "the relationship between grammatical choice and rhetorical function in written English for Science and Technology." Much of this work, such as on the use of tense and articles, was done to develop materials for teaching how to read and write this type of language. However, some erroneous assumptions arose. For example, definition statements were considered to be important for the language of science and technology, but Swales (1981) pointed out that such statements were only used in textbooks and examinations, not in scientific academic writing. Other mistaken assumptions came from the field of English composition. The use of the active voice is often encouraged rather than the passive, but this ignores the reason that the passive is often used in the sciences (for example, in the Materials and Methods section of a journal article, it implants the impression that it is the procedure, not the scientist conducting it, that is important). Still another problem arises with the use of hedging, which may be frowned upon in an English composition essay but again is indispensable in the sciences (Hyland, 1996).

Genre Analysis

What was needed was the combination pointed out by Bhatia (1993): discourse analysis + a model rich in socio-cultural, institutional and organization explanation. And this was offered by Swales (1981, 1985, 1990) [as described in Bhatia 1993, p. 13]:

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> Genre "is a recognizable communicative event characterized by a set of communicative purpose(s) identified and mutually understood by the members of the professional or academic community in which it regularly occurs. Most often it is highly structured and conventionalized with constraints on allowable contributions in terms of their intent, positioning, form and functional value. These constraints, however, are often exploited by the expert members of the discourse community to achieve private intentions within the framework of socially recognized purpose(s)."

This genre analysis approach to ESP texts can be a powerful tool to help initiate students into the types of texts they will encounter in the discourse community they are aiming to join.

Language-Learning Task

Now let us consider the question of what can be done in the EFL classroom. Bhatia (1993) states that "simplification" of the material is not the answer (p. 195-196):

> Sometimes one is tempted to compromise generic integrity of a particular text in order to make it more readily accessible to the learner by applying a variety of simplification procedures to produce simplified texts or simple accounts; however, all these procedures can be counter-productive in typical ESP situations...simplification involves expansion as a result of paraphrasing and detransformation, which invariable flattens out information distribution in simplified versions.... Simplification...may obscure or even destroy the generic integrity of the text in question, thus resulting in somewhat (sic) confusing text-task relationship in ESP.

Thus, it is the very structure and other conventionalized features of the text play important roles in relaying the message to other members of the discourse community. This means that the students, in addition to coping with English as a foreign language, must also learn about these genre features.

If "simplification" is not an option, what can be done? Bhatia (1993, p. 146) suggests "easification" by which various devices are used to "guide the reader through the text without making any drastic changes to the content or linguistic form of the text, thus maintaining its generic integrity." For example, with legislative documents, he suggests clarifying the cognitive structuring by highlighting complex syntactic structures, reducing the information load by breaking down lengthy statements into several subsections, and using illustrations to make interpretations easier to grasp (p. 209- 215).

Reading Portfolio and PAIL

Here I would like to suggest two ways to easify ESP texts in order to make them more accessible to the EFL student: the use of a "reading portfolio" and PAIL. The idea of writing portfolios is often used in composition classes and the use of "disciplinary portfolios" has recently been suggested by Hirvela (1997) for the teaching of EAP (English for academic purposes) writing to nonnative speakers at the graduate school level. The students work on the various types of texts needed for their discourse community–journal article, writing interview. For undergraduate students, a "reading portfolio" of texts that the students are likely to encounter in their major fields would prepare them for future

study and work. Items for such a portfolio would be collected based on consultation with professionals in the field.

The other teaching aid is PAIL. Before starting on a new text, the students are asked to do a bit of genre sleuthing. They are asked to find the PAIL for the text:

P = purpose	Why was this text written?
A = audience	Who was it written for?
I = information	What kind of information does it contain?
L = language	What are its language features?

This kind of exercise makes them aware that different texts have different purposes and therefore require different approaches–no one reads the TV guide like a novel, from start to finish; different texts require different reading strategies.

Note the serendipitous acronym PAIL also represents the concept of a text as a "container" for conveying ideas to others. In a discourse community, the members have specific notions of the genre to which a text belongs (Swales, 1990: p. 55), thus making it essential for students to be able to recognize these characteristics in order to retrieve information from a text and also be able to package and present their ideas in a suitable format so that others of their discourse community will recognize it as a genre item. Berkenkotter et al. (1991) chronicles the "initiation of a graduate student into a writing research community." As for work with undergraduate students, Bloor (1996) describes how students in the department of computer science were initiated into "three distinct genres (or emerging genres) of student writing." She gives specific examples from student messages posted on-line in news groups.

Examples from a Course in English for the Pharmaceutical Sciences[3]

Text type	Content	Source	Easification
Student textbook material	Introduction to early work in immunology	*Basic and Clinical Immunology*	*Highlight dates then complete table to represent chronology of early work
Experimental procedure instructions	Method of identifying synthetic organic color additives in food	*Official Methods of Analysis of the Association of Official Analytical Chemists*	*Complete flow chart of procedure *Represent procedure as illustrations
Student textbook material	Description of the anatomy of the human eye	*Eugene Wolff's Anatomy of the Eye and Orbit*	*Find definitions of different parts of the eye from the text and sentences of own
Phenomenon explanation	Comparison of two types of chromatography	*USP (United States Pharmacopoeia*	*Complete table of comparison *Complete cloze quiz to demonstrate understanding phenomenon
Drug information	Description of a drug and its uses	*Physician's Desk Reference*	*Consider case studies of patients who may use the drug
Abstract of journal paper	Summary of essential information in paper	*Chemical Abstracts*	*Complete cloze lists of essential information

[3]Texts presented to second-year students in a four-year university course in pharmaceutical sciences.

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Students in this second-year course have completed a first-year course in which they have been introduced to the concepts of reading portfolios of different types of texts and the use of PAIL. They have about 13 sessions of 90 minutes in each of two semesters. There are about 50 to 60 students per class and to encourage active participation, they are asked to form groups of about four students each at the start of the year. This is to take advantage of the group -action dynamics which seems to work very well with Japanese students. (Student questionnaires in these classes have indicated a very positive response to the use of group work.) The students work together in groups to discuss texts, answer questions, and present reports.

Easification of a text from the *Physician's Desk Reference*

As a specific example, let us see how we can easify a text written for a physician to refer to when prescribing a drug. Simply trying to read through such a text would be difficult even for a native speaker of English who is not in the medical/pharmaceutical field. It has numerous technical terms for diseases and symptoms. The following is how the students are encouraged to approach the text.

First, the students are asked to identify PAIL for this text. One possible set of answers is as follows:

Purpose	To offer a physician the information necessary to safely prescribe a drug
Audience	Physicians and pharmacists (the latter must sometimes check prescriptions written by physicians)
Information	Description of drug, inactive ingredients, clinical pharmacology, indications and usage, contraindications, warnings, precautions, adverse reactions, what to do in case of overdosage, dosage and administration, form of supply, and caution about dispensing by prescription only [All of this can be easily obtained from the headings of the various sections.]
Language features	Headings, chemical compound names, technical terms (medical terms for diseases and symptoms), lists (mainly of diseases and symptoms), some complete sentences, chemical formula diagrams, drug name and headings using all capital letters, bold type

The language features section will vary greatly for different texts. For example, for the United States Pharmacopoeia text listed above, L would be

Language features	Four paragraphs Complete sentences A few numbers

This PAIL exercise makes students more aware of the differences in the physical format

and features of different texts. The aim is to make them become aware of these features when encountering a new text. Thinking about such text features is often a revelation to Japanese EFL students who have been exposed almost exclusively to English in junior high and high school textbooks which present mainly conversation dialogues and isolated sentences which they are expected to "read" word for word, often relying on literal translation for understanding (Noguchi et al., 1994).

For the *Physician's Desk Reference* text, the students are told not to attempt a translation but to identify sections to examine if confronted with a patient needing a drug like this one. They are given eight true/false statements and told to identify the section in which they expect to find the answer. For example, "This drug cannot be given to pregnant women." would require checking the "Precautions" section under the subheading "Pregnancy." After they have become aware of how to "read/use" this text, they are asked to do a second exercise in which they must decide whether or not the patient described can be prescribed the drug. They must identify the features which are important for the final decision (e.g., whether or not a patient suffering from hypertension or cardiovascular disease can be given the drug) and then explain their decision. The exercise is planned so that the answer can be either "yes" or "no." The students are told that even more important than the simple yes/no answer is the information which must be given to the patient if the drug is prescribed (e.g., the patient must be cautioned against driving a vehicle or operating machinery after taking a drug with sedative effects) and, in case of a negative decision, the explanation of why it was made and what alternative there might be to help the patient. Finally, they are asked to work in their groups and think of their own patient cases, which are then presented to the class. The other students consult each other in their groups to come a decision about whether or not the drug can be prescribed for each case. These exercises should help make the students aware of the purpose of the text and how to extract necessary information from it.

The question remains of how to deal with the difficult medical terminology. As the students will need to be familiar with the many Greek and Latin affixes that are used to compose terms describing diseases and symptoms (many are used on patient records), they are given lists of such affixes to learn before every class and take 10- minute quizzes at the beginning of each class period. Each quiz is composed of ten statements (fifteen in the second semester) using an affix-containing term. For example:

> An oncogene can cause a normal cell to become cancerous. The electrocardiogram revealed that the young man had a heart problem. Japanese encephalitis, in which the brain becomes inflamed, is transmitted by a mosquito.

The underlined words are given as choices to fill in the blanks. As can be seen, the students become exposed to both the technical terms as well as sub-technical vocabulary used in medical fields. Immediately after the quiz, the students exchange papers and are invited to provide the completed sentences after group discussion (there is extremely active participation with groups vying to provide the answers because points are given for all contributions regardless of whether or not they are correct). They are also asked to explain the reasons for their choices, that is, what hints were in the sentence to support each choice. This transforms the quiz into a learning exercise which incorporates listening as well as pronunciation practice.

Summary

As discussed above, different texts require different ways of retrieving and packaging information. This is because discourse communities of professionals have developed their own genres for facilitating communication among themselves. Students aiming to join these communities must be initiated into these genre practices. For ESP courses, I suggest that the students be exposed to a genre portfolio of text types and learn to think about the PAIL for each type. To help make these texts more accessible to the students, various kinds of exercises should be planned to guide the students toward discovering the optimal approaches to different types of texts. These genre tools should equip EFL students with the means to more efficiently approach English texts in their fields of specialty.

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